

*Sub J4*

*CC*

30. (Once Amended) The catalyst system of claim 1 wherein [the bidentate ligand stabilizes] LMX<sub>r</sub> has a square planar geometry.

31. (Once Amended) The catalyst system of claim 6 wherein [the bidentate ligand stabilizes] LMX<sub>r</sub> has a square planar geometry.

32. (Once Amended) The catalyst system of claim 13 wherein [the bidentate ligand stabilizes] LMX<sub>r</sub> has a square planar geometry.

**REMARKS**

The Applicants thank the Examiner for withdrawing the finality of the Office Action dated March 29, 1999, as requested in the response dated September 28, 1999 and verbally prior to filing the response.

The claim amendments requested in the September 28, 1999 response were rejected by the Examiner because the previous Office Action was deemed to be final. Because finality has been withdrawn, the requested amendments are repeated herein.

**Abstract**

The Examiner has objected to the abstract because it is not descriptive of the invention now claimed. Though it is respectfully submitted that the abstract as filed and amended in response to the Examiner's request in the 1<sup>st</sup> Office Action conformed with the requirements of 37 C.F.R. § 1.72(b), the abstract has been amended. It is respectfully submitted that the Patent and Trademark Office and the public generally can quickly determine from a cursory inspection of the amended abstract the nature and gist of the technical disclosure. As suggested in MPEP § 608.01(b), the abstract provides the general nature of the claimed catalyst and the use thereof. It is believed that the amended abstract will overcome the Examiner's objection.

**Objection under 35 U.S.C. § 132**

The Examiner has objected to certain of the amendments filed on February 8, 1999 under 35 U.S.C. § 132 as introducing new matter into the disclosure. This objection is respectfully traversed for the reasons discussed below with respect to each of the amendments raised by the Examiner under this objection.

As stated in *In re Oda* (170 USPQ 268, 1971) "*New matter*" is a technical legal term in patent law - a term of art. Its meaning has never been clearly defined for it cannot be. The term is on par with such terms as *infringement, obviousness, priority, abandonment, and the like* which express ultimate legal conclusions and are in the nature of labels attached to results after they have been reached by processes of reasoning grounded on analyses of factual situations. In other words, the statute gives us no help in determining what is or is not "new matter." We have to decide on a case-by-case basis what changes are prohibited as "new matter" and what changes are not. ...In a sense, anything inserted in a specification that was not there before is new to the specification but that does not necessarily mean it is prohibited as "new matter".' The Examiner has not provided any indication of why he believes that the amendments introduced in the February 8, 1999 response are deemed to be "new matter". It therefore appears that the Examiner is rejecting the amendments on a *per se* basis. However, as stated in *In re Oda*, changes to an application must be decided on a case-by-case basis.

**Deletion of "0"**

The Examiner asserts that the deletion of "0" on page 2, line 33 is new matter. In *Ex parte D* (27 USPQ2d 1067, 1993), the Board of Patent Appeals and Interferences held that "*a change, per se, in an application disclosure does not constitute proscribed new matter. The question that first must be answered is whether the initial application provided by the patentee adequately enabled a person skilled in the subject art to practice the invention as claimed.*" Accordingly, the Examiner cannot use *per se* analysis to reject the proposed amendment as new matter and must look at the nature of the requested amendment. The correction of a structural formula for a chemical compound does not necessarily constitute new matter. In *Ex parte Marsili* (214 USPQ 904, 1979), the Patent and Trademark Office Board of Appeals reversed the Examiner's decision to

refuse entry of an amendment to correct an error in the structural formula of a single ring moiety of a complex compound, effectively the difference between an aromatic and a non-aromatic heterocyclic ring structure. The Board held that "*to refuse correction of the structural formula of Appellant's claimed compounds, which have been found patentable by the Examiner, would lead to the absurdity of issuing a patent which teaches the public in its specification the wrong scientific formula for the new products.*"

The amendment requested in the response dated February 8, 1999 was made to correct an error in the numerical definition of a subscript in the general formula of the claimed Group 9, 10 or 11 metal complex. The Applicants noticed the error made when preparing the application in a review of the application prior to filing the response dated February 8, 1999. The nature of the requested amendment to correct the value of the subscript "r" is of a less serious nature than that of Marsili.

The Examiner states that "*deletion of "0" now requires the metal complex be heteroleptic instead of possibly also being homoleptic.*" The late transition metal complex is defined in the claims as having the general formula  $LMX_r$ . In the application as filed,  $r = 0, 1, 2$  or  $3$ . On reviewing the application prior to filing the February 8, 1999 response, the Applicants realized that when  $r=0$ , the complex had the formula  $LM$ . This was not the intent of the Applicants. Therefore, the Applicants requested amendment to delete "0". By refusing the correction of the structural formula, the patent that issues from the present application would teach the wrong structural formula. As stated in Marsili, that would be absurd.

Accordingly, the Examiner is urged to withdraw his objection under 35 U.S.C. § 132 of the deletion of "0" in the numerical description of the subscript.

#### Deletion of "covalently"

The Examiner also asserts that the deletion of the word "covalently" on page 3, line 10 is new matter. The amendment was introduced in the response dated February 8, 1999 to correct a typographical error. As stated in that response, the structures shown on page 15 illustrate dative bonds between the N and Ni atoms. While it may be argued that a dative bond, also referred to as a coordinate covalent bond, could be viewed as a type of covalent bond, the Applicants are concerned that the term "covalently bonded" on page 3,

at line 10, may be strictly interpreted as "*a bond in which each atom of a bound pair contributes one electron to form a pair of electrons*" (McGraw-Hill Dictionary of Scientific and Technical Terms, 5<sup>th</sup> edition, pg. 474).

As discussed in more detail below regarding the Examiner's additional rejection of this amendment under 35 U.S.C. § 112, 1<sup>st</sup> paragraph, even though the bonds between the N and Ni atoms are illustrated with solid single bond lines instead of arrows in the structures illustrated on page 15, it is respectfully submitted that it is clear to a person of ordinary skill in chemistry, that the bonds in the illustrated structures are dative bonds. The N atoms of the ligand, prior to bonding to the metal, have three N-C bonds and a lone pair of electrons. The lone pair of electrons are thus bonded to the Ni atom in a dative bond. However, the Applicants also contemplated other types of bonds between the E and M elements of the catalyst at the time of filing the application. For example, in some of the possible compositions, one of the elements E of the ligand may be bonded to the metal with a covalent bond, while the other element E is bonded to the metal with a dative bond. The nature of the bond itself is not important, but rather that the ligand stabilizes the metal complex.

The Examiner suggests that the metal in the pg. 15 structures "*could be in the 4+ oxidation state with the C=N double bonds being misprinted as double instead of single. Hence it is not clear what the correction is supposed to be.*" It is respectfully submitted that the correction to delete the word "covalently" is very clear. As shown in the attachments to the September 28, 1999 response, dative bonds can be illustrated with a single line instead of an arrow. This is accepted by those skilled in the art. It is respectfully submitted that drawing a dative bond with a single line instead of an arrow is more plausible and understood by those skilled in the art than the scenario presented by the Examiner suggesting that the Applicants really intended for the double bonds to be single bonds. For the reasons presented herein and under the § 112 rejection discussion, the Examiner is urged to withdraw his objection under 35 U.S.C. § 132 of the deletion of the word "covalently".

The Applicants have addressed each of the amendments which the Examiner regarded as new matter and have provided sound arguments in support of the

amendments. The Examiner is therefore urged to withdraw his objections under 35 U.S.C. § 132.

#### Rejection under 35 U.S.C. § 112, 1<sup>st</sup> Paragraph

The Examiner has rejected claims 1-5, 13-21, 30 and 32 under 35 U.S.C. § 112, 1<sup>st</sup> paragraph as "*containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention*".

Specifically, the Examiner states that the specification as originally filed required a covalent bond between the transition metal of the metal complex and the E atoms of the ligand, on page 3, line 10 and in the exemplary formulas on page 15, Table I. As stated in the response filed February 8, 1999 and discussed above, the word "covalently" was deleted from page 3, line 10 because it was a typographical error. The Applicants were aware at the time that the application was filed, that the bonds between the N and Ni atoms of the exemplary structures in Table I of page 15 were not covalent bonds according to a strict interpretation of the word as meaning "a bond in which each atom of a bound pair contributes one electron to form a pair of electrons."

The Applicants indicated in the February 8 response that support for the amendment deleting "covalently" from the specification could be found in the exemplary structures on page 15, Table I which illustrates dative bonds. The Examiner is rejecting this statement, on the basis that a dative bond is typically illustrated by an arrow from the atom donating electrons to the atoms receiving the electrons. The Applicants agree with the Examiner that dative bonds are often illustrated with arrows. However, dative bonds are not always illustrated with arrows, as demonstrated in the enclosure to the September 28, 1999 response. The Examiner cites US 5,880,301 and US 5,891,989 as examples of patents where dative bonds are drawn with errors. However, the Examiner's attention is also directed to cited U.S. 5,866,663 (Brookhart et al), which shows dative bonds between the N and Ni atoms of the structures in cols. 5-8, for example, that are represented by solid single bond lines. Accordingly, there is no basis for the Examiner's

rejection that, because the Applicants did not use an arrow to depict the dative bond, the Applicants did not have possession of the invention at the time of filing.

Furthermore there is no basis for the Examiner's assertion that the metal in the pg. 15 structures "*could be in the 4+ oxidation state with the C=N double bonds being misprinted as double instead of single. Hence it is not clear what the correction is supposed to be.*" It is respectfully submitted that the correction to delete the word "covalently" is very clear. As demonstrated above, dative bonds can be illustrated with a single line instead of an arrow. This is accepted by those skilled in the art. It is respectfully submitted that it is more plausible that the Applicants used a single line to show a dative bond, which is understood by those skilled in the art, than the scenario proposed by the Examiner, which suggests that the Applicants really intended for the double bonds to be single bonds and the metal is in a 4+ oxidation state.

It is therefore respectfully submitted that it would be clear to a person of ordinary skill in the art that the bonds between the N and Ni atoms in the structures in Table I on page 15 are dative bonds based on known coordination chemistry and from the description of the ligand. In the ligand of the structures, the N atom is covalently bonded to two carbon atoms to produce three N-C bonds. The N atoms of the ligand thus have a lone pair of electrons available for bonding to the Ni atoms. Accordingly, the Applicants reasonably believe that the bonds between the N and Ni atoms are dative in the exemplary structures illustrated in Table I of page 15.

Moreover, the Examiner states that "*For instance, the actual formulas in table I could have been some sort of Zwitterionic structures, or the entire formulas could have been some sort of ionic species.*" Therefore, it appears that the Examiner is concurring with the Applicants that the bonds between the N and Ni atoms in the exemplary structures of Table I are not covalent and that the Applicants should therefore not be limited to covalent bonds between the elements E and M. Nevertheless, it is respectfully submitted that it would be very clear to a person of ordinary skill in the art that the exemplary structures of Table I are not zwitterionic structures or that the entire formulas are some sort of ionic species. Moreover, it is unreasonable for the Examiner to expect a characterization of each bond in the claimed catalyst. The Applicants recite in the independent claims that the bidentate ligand stabilizes the metal complex. Accordingly,

the bond between E and M stabilizes the metal complex, no matter what the nature of the bond.

The Applicants have also noted that the Examiner does agree, elsewhere in the Office Action under response, that the term "bonded" is appropriate for the interaction between E and M. The Examiner's attention is directed to his suggestion for amendment to claims 1 and 13 to overcome his rejection under 35 U.S.C. § 112, 2<sup>nd</sup> paragraph, at lines 1-3 of page 5 of the Office Action. The Examiner suggested that, instead of using the word "stabilized", the words "*-- bonded to -- be used instead since the entire entity is a molecule*". The rejection of the word "stabilized" is addressed in more detail below. However, it must be noted that in one part of his Office Action, the Examiner suggests that the word "bonded" is descriptive of the interaction between the ligand and metal complex. The Examiner will note that the ligand stabilizes the metal complex by bidentate bonding of E to M. Accordingly, it would appear that the Examiner does not agree that the independent claims should recite that "each E is independently a Group 15 or 16 element bonded to M".

The Examiner has further asserted that "*It is not clear from the specification what the intended correction was to be*", citing *In re Oda* for support. The Examiner is now limiting the Applicants to covalent bonds between the E and M elements on the basis that there was one instance of the term "covalently bonded" in the specification as originally filed. The Examiner is ignoring the fact that the exemplary structures of Table I do not depict covalent bonds, as strictly defined above, to a person of ordinary skill in the art. Furthermore, the independent claims as originally filed required that the metal complex be "stabilized by a bidentate ligand". It would be apparent to a person of ordinary skill in the art that the term "stabilized by a bidentate ligand" inherently means that there are at least two bond(s) between the ligand and metal complex. It is therefore unreasonable for the Examiner to require that the nature of the bond between elements E and M when the claim recites a metal complex stabilized by a bidentate ligand.

*In re Oda* cites *Quigley v. Zimmerman* (22 CCPA 713, 73 F.2d 499, 23 USPQ 310, 314 (1934)), stating "*That amendments may be made to patent applications for the purpose of curing defects, obvious to one skilled in the art, in the drawings or written descriptions of inventions, is so well settled that we deem it unnecessary to cite*

*authorities in support thereof.*" It is respectfully submitted that, for the reasons stated above, the error in inadvertently limiting the bond between elements E and M on page 3, line 10 to only covalent bonds would be obvious to one skilled in the art.

Accordingly, for all of the reasons discussed above and because the Examiner himself suggests that the word "bonded" is appropriate for the interaction between the ligand and metal complex, the Applicants respectfully request that the Examiner withdraw his rejection under 35 U.S.C. § 112, 1<sup>st</sup> paragraph.

#### **Rejection under 35 U.S.C. § 112, 2<sup>nd</sup> Paragraph**

The Examiner has rejected claims 1-5, 13-21, 30 and 32 under 35 U.S.C. § 112, 2<sup>nd</sup> paragraph as being indefinite. Each of the terms rejected by the Examiner in Paragraph 8 of the Office Action under response are discussed below.

##### "For polymerization of olefin monomers"

Specifically, the Examiner has asserted that the recitation of "for polymerization of olefin monomers" carries no patentable weight. The Applicants respectfully disagree with the Examiner. As indicated in MPEP § 2111.02, an amendment to a preamble must be looked at on a case-by-case basis. *"Whether a preamble stating the purpose and context of the invention constitutes a limitation of the claimed process is determined on the facts of each case in light of the overall form of the claim, and the invention as described in the specification and illuminated in the prosecution history"* (Applied Materials Inc. v. Advanced Semiconductor Materials America, Inc., 98 F.3d 1563, 1573, 40 USPQ2d 1481, 1488 (Fed. Cir. 1996)).

The amendment to the preamble to recite the intended use was made to more clearly distinguish over the cited art, specifically the Sommazzi reference. As further stated in MPEP § 2111.02, *"in apparatus, article, and composition claims, intended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art."* As discussed more fully below, in the response to the rejection under § 102(b) in view of Sommazzi, there is a structural difference between the claimed catalyst and the cited Sommazzi reference which is more clearly distinguished in the amendment to the preamble.

Moreover, Sommazzi does not teach a process for polymerizing olefin monomers, as claimed in the present application.

The Examiner is urged to withdraw his rejection of the preamble under 35 U.S.C. § 112, 2<sup>nd</sup> paragraph.

"Stabilized"

The Examiner also alleges that it is not clear what the Group 9, 10 or 11 metal complex is "stabilized" against. The Applicants intended the word "stabilized" to mean that the Group 9, 10 or 11 metal complex is stabilized against decomposition, including reduction to metal and/or dimerization. It is respectfully submitted that this term is clear to a person of ordinary skill in the art reading the phrase *"a Group 9, 10 or 11 metal complex stabilized by a bidentate ligand"* as meaning that the bidentate ligand stabilizes the complex against decomposition. In the copy of page 1899 of the 5<sup>th</sup> Edition of the McGraw-Hill Dictionary of Scientific and Technical Terms (submitted with the September 28, 1999 response), stability is defined as *"the property of a chemical compound which is not readily decomposed and does not react with other compounds"*. However, it is clear that the catalyst must still be reactive, by the use of the word "catalyst" and the disclosed utility for polymerization of olefin monomers. It is therefore respectfully submitted that a person of ordinary skill in the art would understand that the bidentate ligand stabilizes the metal complex against decomposition.

The Examiner has suggested that the word "stabilized" be replaced with the words --bonded to--. However, this would change the meaning intended by the Applicants in this portion of the claim. The Applicants do indicate, later in claims 1 and 13, that the bidentate ligand is bonded to the Group 9, 10 or 11 metal through element E of the ligand.

For the reasons discussed above, the Examiner is urged to withdraw his rejection of claims 1 and 13, under 35 U.S.C. § 112, 2<sup>nd</sup> paragraph, in the use of the word "stabilized".

Antecedent basis for "the Group 9, 10 or 11 metal complex"

The Examiner has also rejected the preambles of claims 1 and 13 because the phrase "*the Group 9, 10 or 11 metal complex*" strictly lacks antecedent basis. Specifically, the Examiner is suggesting that the phrase before the formula be amended to read "*the Group 9, 10 or 11 metal complex stabilized by a bidentate ligand*". Though the Applicants believe that the phrase "*the Group 9, 10 or 11 metal complex*" is clear, the Applicants have amended the claim in accordance with the Examiner's request. Accordingly, the rejection under 35 U.S.C. § 112, 2<sup>nd</sup> paragraph, has been overcome.

"Oxidation state of  $MX_r$  is satisfied"

The Examiner has rejected the phrase "*the oxidation state of  $MX_r$  is satisfied*" at the end of the recitation of the identity of the L group of claims 1 and 13 because it is not clear. The Examiner has queried whether the term means that the oxidation state of the entire  $LMX_r$  molecule is neutral. The Examiner is correct that the oxidation state of the entire  $LMX_r$  is neutral. However, the Applicants do not agree that this meaning would "*conflict with the recitations of claims 17 and 21, in which the metal-containing species is a cation*".

Page 2, line 21, as originally filed, states that the polymerization catalysts of the present invention can be derived from late transition metal compounds of the formula  $LMX_r$ . The Applicants envisioned that compounds of the formula  $LMX_r$  can be catalytically competent or that the compounds of the formula  $LMX_r$  can be treated with an activator. Claims 17 and 21 have now been amended to clarify the original intent of the claims. The claims now recite that the  $LMX_r$  complex has been treated with a noncoordinating anion precursor to form an ionic catalyst comprising a metal cation and a noncoordinating anion. Support for the amendments to claims 17 and 21 can be found on page 4, line 33 to page 5, line 9, page 6, lines 11-25 and page 7, lines 18-19. Claims 17 and 21 illustrate preferred methods of treating late transition metal compounds with an activator. It is believed that the rejections of claims 1, 13, 17 and 21 have been overcome by the amendments to claims 17 and 21.

"Hydrocarbyl containing"

The Examiner has requested the insertion of a hyphen between the words "hydrocarbyl" and "containing" in the fifth line from the end of both independent claims. Claims 1 and 13 have been amended as requested by the Examiner.

"Or other univalent anionic ligand"

The Examiner also asserts that "or other univalent anionic ligand" is omnibus, vague and indefinite in the fourth line from the end of claims 1 and 13. Claims 1 and 13 have been amended to recite "a univalent anionic ligand" as a possible X group. Examples of a univalent anionic ligand are a halogen, an alkoxide, and amide and a phosphide as indicated on page 2, at line 38. Other suitable univalent anionic ligands will be readily apparent to a person of ordinary skill in the art upon reviewing the list of example univalent anionic ligands. It is believed that the amendment to claims 1 and 13 will overcome the Examiner's rejection.

"Square planar geometry"

The Examiner has rejected claims 30 and 32 because it is not clear about what entity the "square planar geometry" is "stabilized". Claims 30 and 32 have been amended to indicate that  $LMX_r$  has a square planar geometry. It is believed that this amendment will overcome the Examiner's rejection.

"Anion precursor"

The Examiner is still not clear what is meant by "anion precursor" in claim 19. Accordingly, claim 19 has been amended to clarify that the precursor is a noncoordinating anion precursor. The term "noncoordinating anion precursor" is defined on page 6 at lines 11-25, as originally filed. It is believed that the amendment to claim 19 will overcome the Examiner's rejection of the term "anion precursor" under 35 U.S.C. § 112, 2<sup>nd</sup> paragraph.

The Applicants have addressed each of the terms rejected by the Examiner under 35 U.S.C. § 112, 2<sup>nd</sup> paragraph, and have provided amendments and/or arguments in

support of the terms. The Examiner is therefore urged to reconsider his rejections under 35 U.S.C. § 112, 2<sup>nd</sup> paragraph.

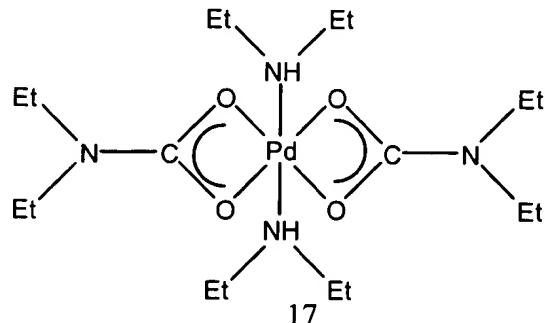
### Rejection under 35 U.S.C. § 102(b)

The Examiner has rejected claims 1-3, 5, 13-15, 30 and 32 under 35 U.S.C. § 102(b) as being anticipated by Sommazzi for the reasons presented in Paragraph 12 of the Office Action dated October 6, 1998. The Examiner has rejected the arguments presented in the response dated February 8, 1999 as "*being more suitable to a 35 USC 103 rejection*".

It is respectfully submitted that, for the reasons discussed below, Sommazzi does not teach the claimed catalyst. Accordingly, the Examiner must withdraw his rejection under 35 U.S.C. § 102(b) as being anticipated by Sommazzi. To the extent that the Examiner elects to apply the Sommazzi reference to reject the claims under 35 U.S.C. § 103, the independent claims were amended in the response dated February 8, 1999 to recite that the catalyst system is used "for polymerization of olefin monomers". The rejection against this amendment is addressed above.

As stated in the response dated February 8, 1999, Sommazzi describes a hydroformylation catalyst and process for the production of alternating olefin/carbon monoxide copolymers. The hydroformylation catalyst is constituted by (a) the solid compound produced from the interaction of  $Pd(O_2CNEt_2)_2(NHEt_2)_2$  with a solid carrier, (b) a mono- or bidentate ligand containing one or two nitrogen or phosphorous atoms, capable of binding to the Pd atom through dative bonds, and (c) a mineral or organic acid, such as trifluoroacetic acid, p-toluene sulfonic acid, sulfuric acid, or alkane sulfonic acids.

First, Sommazzi does not teach the claimed catalyst. Moreover, Sommazzi does not teach a process for polymerizing olefins. The Applicants believe that the structure for  $Pd(O_2CNEt_2)_2(NHEt_2)_2$  can be represented as shown below:



However, there is no illustration or discussion in Sommazzi of the composition of the metal complex with the ligand attached. There is likewise no discussion in Sommazzi of whether any of the groups bonded to the metal center are abstracted to allow for bonding of a bidentate ligand. Accordingly, Sommazzi does not anticipate the claimed invention because Sommazzi does not teach the claimed catalyst. The Examiner is urged to withdraw his rejection under 35 U.S.C. § 102(b).

Second, it is generally accepted by those skilled in the art that the active center of a catalyst useful for polymerization of polyolefins must have a metal-carbon bond as a propagating chain unit. As the Examiner can see by the above structural formula for Sommazzi's palladium complex, there is no metal-carbon bond. Furthermore, Sommazzi's bidentate ligand is datively bonded to the Pd atom through 2 nitrogen or phosphorus atoms. Accordingly, even when the ligand is bonded to the Pd atom, there is no metal-carbon bond. Moreover, Sommazzi does not teach or suggest how to activate his catalyst for polymerization of polyolefins, because his catalyst is for alternating olefin/carbon monoxide copolymers. It is therefore believed that Sommazzi, in accordance with those skilled in the art, understood that hydroformylation catalyst systems, such as that described in Sommazzi, are useful strictly to make alternating olefin/carbon monoxide copolymers. Furthermore, it is generally known to those skilled in the art that catalyst systems such as that described in Sommazzi do not function in the absence of carbon monoxide.

In the claimed catalyst of the present application, the X group often provides a metal-carbon bond for a propagating chain unit. However, to the extent that X does not provide a metal-carbon bond, the present application teaches that an activator is used to treat the compound  $LMX_r$  to provide a metal-carbon bond for a propagating chain unit. See, for example, page 2, line 34 to page 3, line 3 and page 4, lines 33-35. Accordingly, the catalyst system of Sommazzi does not fall within the scope of the catalyst system recited in the independent claims. The Applicants, therefore, respectfully urge the Examiner to withdraw his rejection of claims 1-3, 5 and 13-15 under 35 U.S.C. § 102 (b) in view of Sommazzi.

Furthermore, as discussed above, a person of ordinary skill in the art would not expect the catalyst described in Sommazzi to be useful for the polymerization of olefin monomers. Accordingly, the Applicants respectfully submit that the Examiner cannot reject the claims under 35 U.S.C. § 103 in view of Sommazzi.

#### Rejection under 35 U.S.C. § 102(e)

The Examiner has rejected claims 1-5, 13-15, 30 and 32 under 35 U.S.C. § 102(e) as being anticipated by Brookhart et al (U.S. Patent No. 5,866,663).

The Examiner has pointed to the abstract, col. 1-33, col. 38, top, and Example 98 of Brookhart et al in support of his position that "*Brookhart discloses the present invention as claimed*". This rejection is respectfully traversed for the following reasons.

The Applicants have reviewed the abstract and col. 1-33 and could not find any reference to a supported catalyst, as claimed in the present application. The Applicants are not certain what the Examiner intended by "top" as a descriptor of col. 38. However, the Applicants have reviewed all of col. 38 and, again, could not find any reference to a supported catalyst.

Example 98 of Brookhart et al is a polymerization example, using as a catalyst, silica impregnated "*with a methylene chloride solution of {[2,6-i-PrPh)<sub>2</sub>DABMe<sub>2</sub>]PdCH<sub>2</sub>CH<sub>2</sub>C(O)CH<sub>3</sub>}SbF<sub>6</sub>* to give a 10 wt % loading of the catalyst on silica." The 10 wt.% loading of the palladium compound is equivalent to a loading of 156 micromoles Pd per gram of silica. This transition metal loading is greater than the transition metal loading of less than 100 micromoles transition metal per gram of solid support recited in claim 1 of the present application. Accordingly, the Examiner's rejection of claim 1 and its dependent claims under 35 U.S.C. § 102(e) must be withdrawn.

The Applicants reasonably believe that the supported catalyst prepared in Example 98 has residual solvent. There is nothing in Example 98 which appears to teach or suggest that the residual solvent was removed from the catalyst prior to polymerization. Claim 13 of the present application recites "a late transition metal catalyst system essentially without residual solvent". This recitation is not taught in the

cited passages of the Brookhart et al reference. Accordingly, the Examiner's rejection of claim 13 and its dependent claims under 35 U.S.C. § 102(e) must be withdrawn.

For the reasons discussed above the Examiner's rejection of claims 1-5, 13-15, 30 and 32 under 35 U.S.C. § 102(e) as being anticipated by Brookhart et al must be withdrawn.

The Applicants believe that the amendments and arguments presented herein are sufficient to overcome the Examiner's rejections.

The Applicants also believe that the present application has been patentably distinguished over all of the cited references and is in good condition for allowance. Accordingly, the Applicants respectfully request that the Examiner reconsider the Applicants' application in view of the arguments and amendments presented herein and allow all claims, as amended.

Respectfully submitted,

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October 11, 2000  
Date of Signature



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